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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,750	09/21/2006	Jonathan Sidney Edelson	12060.US.PCT.CIP	3018

7590 06/25/2009  
Borealis Technical Limited  
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EXAMINER
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LE, DAVID D

ART UNIT	PAPER NUMBER
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3655

MAIL DATE	DELIVERY MODE
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06/25/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,750	<b>Applicant(s)</b> EDELSON ET AL.	
	<b>Examiner</b> David D. Le	<b>Art Unit</b> 3655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 72-76 and 78-93 is/are pending in the application.
- 4a) Of the above claim(s) 90-93 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 72-76 and 78-89 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/21/06</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This is the first Office action on the merits of Application No. 10/593,750, filed 21 September 2006. Claims 72-76 and 78-93 are pending.

### **Documents**

2. The following documents have been received and filed as part of the patent application:
- Drawings, received on 06/12/08
  - Information Disclosure Statement, received on 09/21/06

### ***Election/Restrictions***

3. Applicant's election without traverse of Invention I, claims 72-76 and 78-89 in the reply filed on 23 April 2009 is acknowledged. Accordingly, claims 90-93 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention.

### ***Drawings***

4. The drawings, submitted on 12 June 2008, are objected to because they are not properly identified in the top margin as "Replacement Sheet", "New Sheet", or "Annotated Sheet" as required by 37 CFR 1.121(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the

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appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

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6. The abstract of the disclosure is objected to because it exceeds 150 words and contains legal phraseology, “means”. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 72-76 and 78-89 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

*Claim 72:*

- Line 5 recites the limitation "the mechanical output". There is insufficient antecedent basis for this limitation in the claim.

*Claim 73:*

- Lines 1-2 recite the limitation “a gear ratio of a transmission”. It is unclear whether this newly recited limitation is different from the one, which is first recited on line 5 of claim 72.

*Claim 74:*

- Lines 1-2 recite the limitation “a gear ratio”. It is unclear whether this newly recited limitation is different from the one, which is first recited on line 5 of claim 72.

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Claim 75:

- Lines 1-2 recite the limitation “a gear ratio”. It is unclear whether this newly recited limitation is different from the one, which is first recited on line 5 of claim 72.

Claim 78:

- Lines 1-2 recite the limitation “a gear ratio”. It is unclear whether this newly recited limitation is different from the one, which is first recited on line 5 of claim 72.

Claim 80:

- Line 4 recites the limitation “a curve”. It is unclear whether this newly recited “a curve” is different from the one, which is first recited on line 2 of claim 80.

Claim 82:

Applicant asserts that the claimed element “an energy storage means” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, it is unclear whether the claimed element is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph, because the claimed limitation is not in a proper format of "means or step plus function". If applicant wishes to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to:

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- (a) Amend the claim to include the phrase “means for” or “step for” in accordance with these guideline: the phrase “means for” or “step for” must be modified by functional language and the phrase must not be modified by sufficient structure, material, or acts for performing the claimed function; or
- (b) Show that the claim limitation is written as a function to be performed and the claim does not recite sufficient structure, material, or acts for performing the claimed function which would preclude application of 35 U.S.C. 112, sixth paragraph. For more information, see MPEP § 2181.

Claim 83:

- Line 4 recites the limitation “its”. It is unclear what “its” is referring to in the claim.

Claim 85:

Applicant asserts that the claimed element “a control means” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, it is unclear whether the claimed element is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph, because the claimed limitation is not in a proper format of "means or step plus function". If applicant wishes to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to:

- (a) Amend the claim to include the phrase “means for” or “step for” in accordance with these guideline: the phrase “means for” or “step for” must be modified by

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functional language and the phrase must not be modified by sufficient structure, material, or acts for performing the claimed function; or

(b) Show that the claim limitation is written as a function to be performed and the claim does not recite sufficient structure, material, or acts for performing the claimed function which would preclude application of 35 U.S.C. 112, sixth paragraph. For more information, see MPEP § 2181.

Claim 87:

Applicant asserts that the claimed element “the control means comprises means to determine” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, it is unclear whether the claimed element is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph, because the claimed limitation is not in a proper format of “means or step plus function”. If applicant wishes to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to:

(a) Amend the claim to include the phrase “means for” or “step for” in accordance with these guideline: the phrase “means for” or “step for” must be modified by functional language and the phrase must not be modified by sufficient structure, material, or acts for performing the claimed function; or

(b) Show that the claim limitation is written as a function to be performed and the claim does not recite sufficient structure, material, or acts for performing the claimed



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function which would preclude application of 35 U.S.C. 112, sixth paragraph. For more information, see MPEP § 2181.

Claim 88:

Applicant asserts that the claimed element “means to increase the torque/speed gear ratio” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, it is unclear whether the claimed element is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph, because the claimed limitation is not in a proper format of “means or step plus function”. If applicant wishes to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to:

- (a) Amend the claim to include the phrase “means for” or “step for” in accordance with these guideline: the phrase “means for” or “step for” must be modified by functional language and the phrase must not be modified by sufficient structure, material, or acts for performing the claimed function; or
- (b) Show that the claim limitation is written as a function to be performed and the claim does not recite sufficient structure, material, or acts for performing the claimed function which would preclude application of 35 U.S.C. 112, sixth paragraph. For more information, see MPEP § 2181.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 72-76 and 78-89, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by U. S. Patent No. 6,809,429 to Frank.

*Claims 72-76 and 78-89:*

Frank (Figs. 1-13; column 1, line 33 – column 13, line 49) discloses a control method and apparatus comprising:

- An unthrottled engine (i.e., Fig. 4, element 10);
- A transmission (i.e., Fig. 4, element 18), connected between an mechanical load (i.e., Fig. 4, element 28) and the unthrottled engine (10), including a variable gear ratio;
- A system controller (i.e., Fig. 4, element 30), for controlling a torque load on the engine, according to a changeable required power output, including:
  - Means for determining the torque output of the engine at the achievement of a required power output (i.e., column 6, line 9 – column 9, line 67);
  - Means for setting the gear ratio of the transmission to produce the torque load on the engine substantially equal in magnitude to the torque output of the engine at the achievement of the required power output, whereby the

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engine will reach an equilibrium with the mechanical load at substantially the required power output (i.e., column 6, line 9 – column 9, line 67);

- Wherein the transmission is a continuously variable transmission (i.e., Fig. 4; column 4, line 16); and
- Wherein the mechanical load is a generator (i.e., Fig. 4, element 28) connected to a battery (i.e., Fig. 4, element 26).

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Ibaraki (U. S. Patent No. 5,942,879) teaches a control system for a hybrid vehicle, as shown in Fig. 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 571-272-7092. The examiner can normally be reached on Mon-Fri (0900-1730).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David D. Le/  
Primary Examiner, Art Unit 3655  
06/24/2009

ddl